LEARNERS' COMPETENCIES IN NEW FORMS OF ASSESSMENT: A CASE STUDY

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A research report submitted to the Faculty of Science, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Science.

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DECLARATION

I declare that this research report is my own, unaided work. It is being submitted for the Degree of Master of Science in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other University.

(Mrs. L. Rodwell)

28 th day of February 2006

Abstract

This small-scale case study researches the importance of analysing the mathematics competencies assessed by a selection of tasks developed for a portfolio in Grade 9 during 2003. The tasks are analysed according to the cognitive demand placed on the learners, plus their open-ended versus closed nature. This research reveals that the weaker ability learners experience a greater apparent benefit, compared to the stronger ability mathematics learners. Although there are other mathematical competencies assessed in this research report, those of 'thinking and reasoning mathematically' and 'representing and explaining mathematical entities' are most problematic, compared to the more traditional competencies of 'memorisation' and 'manipulation of mathematical symbols and formalisms'. Assessing the tasks from the perspective of mathematical competencies, may serve to provide an alternative framework for analysing the appropriateness or not of tasks used in the development of portfolios and thus improve the practises of mathematics teachers in general.

DEDICATION

To

Matthew, Calvin and Courtney,

for all the times I wasn't able to spend with you as a family.

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To my husband Matthew, for all those times when I was ready to give up, thank you for making me persevere to the end.

Lynn Rodwell
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